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Mr. Deepak Joshi
Lead Aerospace Engineer (Structures)
National Transportation Safety Board
Room 5235, 490 L'Enfant Plaza, SW
Washington, DC 20594

Subject: ALPA Comments Regarding NTSB Proposal To Amend 49 *Code of Federal Regulations* (CFR) Part 830
Reference: Federal Register / Vol. 69, No. 247 / Monday, December 27, 2004 / Page 77150

IN PARTIAL SUPPORT, WITH ADDITIONAL COMMENTS

Dear Mr. Joshi:

The Air Line Pilots Association, International (ALPA), representing the safety interests of 64,000 professional airline pilots flying for 43 airlines in the U.S. and Canada, has reviewed the subject NTSB proposal. The NTSB is proposing to amend 49 *Code of Federal Regulations* (CFR) Part 830, "Notification and Reporting of Aircraft Accidents or Incidents and Overdue Aircraft, and Preservation of Aircraft Wreckage, Mail, Cargo, and Records," to include certain events that are not currently covered by the regulations. This amendment is intended to enhance aviation safety by providing the NTSB direct notification of these events so that the NTSB can investigate and take corrective actions in a timely manner.

In general, ALPA concurs with what appears to be the intent of these proposals – hazard identification with the goal of hazard elimination or mitigation. However, ALPA believes that many of the specific provisions need to be further explored if the NTSB is to gather the appropriate information. In particular, ALPA does not concur with the proposal to make every ACAS RA a reportable event, and strongly urges the Board to consider withdrawing that specific proposal. While ALPA understands and concurs with the need to identify hazards within the National Airspace System (NAS), ALPA does not believe that this ACAS proposal will achieve that goal.

In addition to the following section-by-section comments specific to the NTSB proposal, ALPA notes that if the NTSB is expending resources to review and update NTSB-specific CFRs, other regulations, notably those concerning data protection, are equally, if not more, in need of revision.

Existing programs to protect safety data from misuse in non-safety applications have been proven to have shortcomings. Current legislation does not adequately protect safety information from improper release by government agencies, or from misuse by operators. Until such rigorous data protections are enforced by legislation, further data collection efforts must necessarily be viewed with extreme caution.

Proposed Revision to § 830.2 ("Definitions") – Full Concurrence

The NTSB proposes to modify the current definition of *substantial damage* in § 830.2 by removing the reference to ground damage to helicopter rotor blades from the list of exclusions, in order to bring events involving ground damage to main or tail rotor blades within the definition of an accident, and to make them reportable events. ALPA fully concurs with this NTSB proposal, and the NTSB rationale.

Proposed Revisions to § 830.5 ("Immediate Notification")

The NTSB is proposing that four specific events be added to the existing list of events that require immediate NTSB notification. These are addressed individually as follows:

1) Failure of any internal turbine engine component that results in the escape of debris other than out the exhaust path. – Full Concurrence

Currently, § 830.5(a)(3) excludes the failure of compressor and turbine blades and vanes from required NTSB notification. ALPA concurs with adding this to the reportable event list, since the failure of any internal turbine engine component that results in the escape of debris other than out the exhaust path can pose a significant safety hazard to the aircraft and its occupants.

2) Structural failure of a propeller resulting in the release of all or a portion of a propeller blade from an aircraft, excluding release caused solely by ground contact. – Partial Concurrence, with Additional Comments

ALPA agrees with the NTSB proposal that such failures should qualify as reportable events, but recommends against the proposed exclusion regarding propeller ground contact.

Rationale

ALPA does not agree with the NTSB position that propeller component release caused solely by ground contact is an excludable condition. Liberated propeller blades or blade segments, regardless of the cause, pose a significant hazard to crew, passengers and bystanders. Timely and complete knowledge of any event is necessary to fully identify, understand and mitigate the hazards associated with that event. Excluding propeller release events that are caused by ground contact presumes that the NTSB sufficiently understands the circumstances and hazards without investigating the specific event, which cannot be true.

3) Loss of information from a majority of an aircraft's certified electronic primary displays (excluding momentary inaccuracy or flickering from display systems that are certified installations). – Partial Concurrence, with Additional Comments

ALPA concurs with the NTSB proposal that such failures should qualify as reportable events, but recommends against the exclusions regarding 'momentary inaccuracy' or 'flickering' of instrumentation displays as proposed. We further recommend clarification of "majority" in the context of the proposal.

Rationale

Generally, in aircraft where electronic displays are used as the primary device(s) for presenting critical flight and engine information, multiple displays are provided. Malfunctions, however brief, can be indicative of underlying hardware or software deficiencies, and flight safety may be compromised when one, several, or a majority of these displays malfunction. But not all malfunctions result in the same level of risk, either.

Flight crews are required to make aircraft logbook entries when they detect equipment abnormalities, which then must be addressed by the operator's maintenance provider. This process ensures that a certain minimum level of safety is maintained. Serious abnormalities (such as the type cited in this proposal) are almost always brought to the attention of entities in addition to the operator (such as the manufacturer, NTSB and FAA), but this is not a given. The proposed reporting change regarding "Loss of information from a majority of an aircraft's certified electronic primary displays" would ensure that the NTSB does receive notice of these serious events, and ALPA concurs with this portion of the proposal.

However, the portions of the proposal dealing with exclusions are both too subjective and too easily misinterpreted, and ALPA recommends that the NTSB reconsider these proposed exclusions in accordance with the following paragraphs.

"Flickering" would typically be construed as a momentary loss, flash or blink of a display, and therefore could be considered a specialized case or subset of the "loss of information" condition, which is the main thrust of the proposal. This proposed exclusion ("flickering") is too subjective and leaves too much to flight crew and operator discretion, which could lead to an under- or over-reporting of events. In some aircraft, it is completely normal for the displays to "flicker" when electrical power is transferred between busses. In other aircraft, this may not be the normal condition, and therefore would indicate that corrective action is required. Additionally, the proposal is unclear regarding the frequency and/or number of occurrences of "flickers "- does the NTSB consider one "flicker" acceptable, but constant "flickering" unacceptable, and therefore reportable? The use of such a subjective term should either be avoided, or be supplemented by unambiguous guidance, which enables all affected individuals and organizations to readily and accurately comply with the NTSB proposed rule. Since the avionics and airframe manufacturers are best suited to define the normal and abnormal operating characteristics of their equipment, it follows that their guidelines should be used the basis for developing or defining any NTSB reporting requirements.

Regarding the proposed exclusion for "momentary inaccuracy", it is difficult to interpret this phenomenon as an extension, specialized case, or subset of the proposal's primary condition, "loss of

information." To flight and maintenance personnel, 'inaccurate information' denotes a situation completely different from a 'lack of information.' These two conditions likely have different causes, and likely have completely different implications as well. Therefore, this proposed exclusion for "momentary inaccuracy" actually *expands* rather than *reduces* the scope of events of interest to the NTSB.

With the expanding use of multifunction displays, the concept of a "majority of the displays" is ambiguous. It is not clear if the intent is to report only those events involving the loss of all information on a page of a display, failure of a display device entirely, loss of critical information versus loss of supplementary data contained in underlying "pages" on displays, etc.

The real question concerns just what information or type of event(s) the NTSB is trying to capture, and whether the proposed reporting requirements clearly satisfy that intent. Without the exclusions, the proposal is clear and unambiguous. The proposed "flickering" exclusion is too subjective, and either needs to be eliminated or referenced to manufacturers' guidance. The "momentary inaccuracy" clause is not an 'exclusion' at all, since it actually expands the scope of proposed reportable events. ALPA believes that the NTSB should be informed in a timely and thorough manner when instrumentation failures that potentially affect the safety of flight occur. However, ALPA cautions that the NTSB reporting requirements must be carefully crafted to provide clear and unambiguous guidance in order to ensure that the desired events are captured, but that industry and NTSB resources are not wasted reporting undesired events.

4) Any Airborne Collision and Avoidance System (ACAS) resolution advisories (RA) issued when an aircraft is being operated on an instrument flight rules (IFR) flight plan. – Completely Oppose

ALPA is completely opposed to the NTSB proposal to make ACAS RA events reportable to the NTSB and strongly recommends its withdrawal.

Instead, ALPA urges the NTSB to consider the information below, and in collaboration with the FAA, the operators, and other industry stakeholders (including ALPA), develop a more practical and effective approach to capturing, analyzing and reducing hazardous events in the National Airspace System (NAS). NTSB attempts to implement separate, duplicative requirements should only be pursued if the existing or evolving systems prove unsatisfactory.

Rationale
The NTSB states that this requirement would assist them "...in detecting, tracking, and investigating these hazardous occurrences." While ALPA agrees with the NTSB that "RAs indicate a potential hazard in the air traffic control (ATC) system", ALPA believes that this NTSB proposal represents an inappropriate and inadequate solution for collecting, analyzing, and reducing ACAS Resolution Advisory events.

Considerations:

- ACAS RA events are occurrences of successes of safety defenses in the NAS.

- Anecdotal evidence indicates that, of the numerous ACAS RA events every year in the US, the vast majority are due to very low risk situations, which require no corrective or evasive action(s). Incidents of true collision hazards annunciated by an RA and requiring sudden or abrupt evasive action by ACAS-equipped aircraft are rare.

- There is a need to capture all ACAS RA events in order to identify systemic deficiencies and implement corrective action(s).
  - Evidence seems to indicate that many ACAS RA events result from an incompatibility between ACAS safety logic and approved air traffic control separation procedures.
  - There is no unified approach to capturing all events in a single compendium, nor is there any system-wide or single-point mechanism to consistently identify and examine the more serious events.

- There is also the need to identify those ACAS RA events that are associated with high-risk situations in order to identify additional deficiencies and implement corrective action(s).

- There are already several programs and provisions for collecting ACAS RA information.
  - The FAA requires (FAR 91.123c) that "Each pilot in command who, ... in response to a traffic alert and collision avoidance system resolution advisory, deviates from an ATC clearance or instruction shall notify ATC of that deviation as soon as possible."
  - Many operators collect RA event information via in-house safety programs such as ASAP and FOQA. Generally, flight crew members are requested, but not required, to report RA events to their ASAP program. ASAP reports provide operators with sufficiently timely notification that the FAA ATC voice communications and radar data can be obtained. Anecdotal information indicates that virtually every operator configures its FOQA program to capture RA events for those aircraft in its fleet that are appropriately instrumented.
  - Implementation of this NTSB proposal would duplicate certain reporting requirements, as well as certain data collection and analysis efforts.
  - The NTSB should first focus on using and/or modifying the existing and evolving ACAS RA event capture and analysis systems before attempting to implement a separate, duplicative requirement.

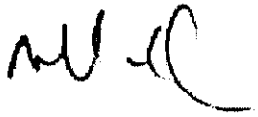
- The required reporting of *all* ACAS RA events to the NTSB would present a significant information collection, processing and analysis challenge. This could be particularly burdensome to the Board because of the existing requirement in 49 CFR 830 to report events "by the most expeditious means possible." This requirement would inundate not only the NTSB, but also burden the FAA, the operators and flight crews with additional workload.
  - Effective analysis of any data requires an appropriate plan, and sufficient resources to accomplish that plan. It is generally recognized that the NTSB has historically been understaffed and under-resourced, and continues to be so today. Therefore, a potential workload increase as large as that expected to result from this requirement to report all RA events to the NTSB, will significantly add to the overburdening of the NTSB. Furthermore, despite specific requests by ALPA, the NTSB has not provided any insights into its plan to compile or analyze this RA event information.
  - Even if each operator only has one event per week, the reporting requirements and NTSB requests for additional information from the operators (e.g. onboard recorder data) will place an

additional burden on the operators. As one safety representative observed, "We have to concentrate our available safety resources in areas where our labors can be more fruitful."

- The NTSB is not structured or resourced to conduct long term, large scale data collection and filtering. Instead, the NTSB strength lies in detailed analysis of specific, one-time events.
- Filtering and investigating safety defense 'successes' should first be the responsibility of the 'front line' organization responsible for the implementation and operation of the system or systems, which in this case would be the FAA Air Traffic Organization (ATO).
  - The FAA is the agency that would provide the critical, objective information (ATC voice communications and radar data) to the NTSB if the proposed change were implemented. The FAA is already the first in the notification chain when an RA occurs, and represents the most logical agency and the most efficient path for collecting the required information. Adding the NTSB to the notification and information recovery process simply injects an additional organization into the effort to capture RA events, but ALPA does agree that the NTSB should be informed when a hazard is identified.

Thank you for the opportunity to comment.

Sincerely,



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